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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/500,437	03/11/2005	Ernst Wagner	114745-009	9316

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EXAMINER

CHRISTENSEN, RYAN S

ART UNIT	PAPER NUMBER
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2856

DATE MAILED: 05/30/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/500,437

Applicant(s)

WAGNER, ERNST

Examiner

Ryan Christensen

Art Unit

2856

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 11 March 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 14-28 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 14-18, 22, 23 and 25-28 is/are rejected.
- 7) ☒ Claim(s) 19-21, 24 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 8/09/2004.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Claim Objections

Claims 16, 17, 20, 21 are objected to because of the following informalities:

With respect to claim 16, there should be a period at the end of the claim.

With respect to claim 17, in the first line the term "to" should be deleted.

With respect to claim 20, in the first line it appears as though the word sensor should be added after "reference oxygen."

With respect to claim 21, in the fifth line, the term "in" should be deleted.

Appropriate correction is required.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 14, 22, and 25 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

With respect to claims 14, and 22 the phrase "particularly...extinguishing" renders the claim indefinite because it is unclear whether the limitation(s) following the phrase are part of the claimed invention. See MPEP § 2173.05(d).

With respect to claim 25, there is insufficient antecedent basis for this limitation in the claim for the limitation "the at least one detector."

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 14-17, 22 and 23 are rejected under 35 U.S.C. 103(a) as being obvious over United States Patent Publication 2002/0040940 (Wagner et al.) in view of U.S. Patent 6,131,439 (Hamburg et al.). With respect to claim 14, Wagner et al. disclose a method for measuring oxygen content in a closed target space (abstract and Fig. 1) including drawing an air sample through one or more holes (aspirative fire detection device, Paragraph 17, and plurality of locations via piping, 22, Fig. 1) and determining an oxygen concentration with an oxygen sensor (10, Fig. 1 and Paragraph 24). Wagner et al. do not explicitly disclose a reference oxygen sensor for taking a second measurement, comparing the two measurements and generating a disturbance if there is a disparity in the signals. However, U.S. Patent 6,131,439 (Hamburg et al.) discloses a reference oxygen sensor (second sensor, 24, Fig. 1) in addition to a concentration sensor (first sensor 22, Fig. 1). The signals generated by the two sensors are compared (Col. 3, lines 30-55 and 54, Fig. 2) and an error is output (56, Fig. 2) if the difference in the signals is above a tolerance level (Col. 3, lines 30-55 and 54, Fig. 2). It would have been obvious to one of ordinary skill in the art at the time of the invention to

modify the system taught in Wagner et al. by including a second oxygen sensor and comparing its out put to the first in order to diagnosis the failure of a sensor or to calibrate the system (Hamburg et al., Col. 3, lines 41-56).

With respect to claim 15, Wagner et al. disclose taking a measurement with the oxygen sensor and if the concentration is above a threshold (base inerting level) lowering the oxygen content of the target space (enclosed space) if by infusing an inert gas (Fig. 2 and Paragraphs 15 and 24).

With respect to claim 16 Wagner et al. disclose measuring fire parameters in the drawn air sample with a detector; and sending a signal from the detector for full inertization of the target space when a fire parameter is detected (Fig. 2, and Paragraph 24).

With respect to claim 17, Wagner et al. disclose the fire parameters that are detected in the detector include at least one combustion gas (Paragraph 24).

With respect to claim 22, the combination of Wagner et al. and Hamburg et al. 22 discloses an apparatus measuring the oxygen content in a closed target space, (Wagner et al., abstract and Fig. 1) including drawing an air sample through one or more holes (Wagner et al., aspirative fire detection device, Paragraph 17, and plurality of locations via piping, 22, Fig. 1) and determining an oxygen concentration with an oxygen sensor (Wagner et al., 10, Fig. 1 and Paragraph 24). The combination also discloses a reference oxygen sensor (Wagner et al., second sensor, 24, Fig. 1) in addition to a concentration sensor (Hamburg et al. , first sensor 22, Fig. 1). The signals generated by the two sensors are compared (Hamburg et al., Col. 3, lines 30-55 and 54,

Fig. 2) and an error is output (Hamburg et al., 56, Fig. 2) if the difference in the signals is above a tolerance level (Hamburg et al., Col. 3, lines 30-55 and 54, Fig. 2)

With respect to claim 23, Wagner et al. disclose the oxygen sensor (10, Fig. 1) integrated with the suction pipe (22, Fig. 1).

Claims 18, 26, and 27 are rejected under 35 U.S.C. 103(a) as being obvious over the combination of United States Patent Publication 2002/0040940 (Wagner et al.) and U.S. Patent 6,131,439 (Hamburg et al.) as applied to claim 14 in further view of U.S. Patent 6,166,647 (Wong). With respect to claims 18 and 26, the combination of Wagner et al. and Hamburg et al. do not explicitly disclose the detection of CO or CO₂ for the detection of a fire. However, Wong discloses the detection of CO or CO₂ for detecting a fire (Col. 4, lines 59-66). It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the system taught by Wagenr et al. by detecting a fire through monitoring because CO or CO₂ because these are well known combustion gases for fire detection (Wong, Col. 4, line 59 to Col. 5, line 30) and Wagner et al. suggests their method can be combined with known fire detection devices (Paragraph 21).

With respect to claim 27, Wagner et al. disclose the fire detector (16, Fig. 1) being integrated with the suction pipe system (22, Fig. 1). The combination as described above discloses the fire detector consisting of CO or CO₂ sensors. Claim 28 is rejected under 35 U.S.C. 103(a) as being obvious over the combination of United States Patent Publication 2002/0040940 (Wagner et al.) and U.S. Patent 6,131,439 (Hamburg et al.) as applied to claim 14 in further view of U.S. Patent

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4,177,787 (Hattori et al.). With respect to claim 28, Wagner et al. do not explicitly disclose that the oxygen sensor comprise zirconium dioxide. However, Hattori et al. disclose zirconium dioxide sensors (Col. 5, lines 33-38). It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the system taught by Wagner et al. by using oxygen sensors comprising zirconium dioxide because zirconium dioxide is well known in the art as an O₂ conductive metal for Oxygen sensors.

The applied reference, Wagner et al., has a common inventor with the instant application. Based upon the earlier effective U.S. filing date of the reference, it constitutes prior art only under 35 U.S.C. 102(e). This rejection under 35 U.S.C. 103(a) might be overcome by: (1) a showing under 37 CFR 1.132 that any invention disclosed but not claimed in the reference was derived from the inventor of this application and is thus not an invention "by another"; (2) a showing of a date of invention for the claimed subject matter of the application which corresponds to subject matter disclosed but not claimed in the reference, prior to the effective U.S. filing date of the reference under 37 CFR 1.131; or (3) an oath or declaration under 37 CFR 1.130 stating that the application and reference are currently owned by the same party and that the inventor named in the application is the prior inventor under 35 U.S.C. 104, together with a terminal disclaimer in accordance with 37 CFR 1.321(c). This rejection might also be overcome by showing that the reference is disqualified under 35 U.S.C. 103(c) as prior art in a rejection under 35 U.S.C. 103(a). See MPEP § 706.02(I)(1) and § 706.02(I)(2).

Allowable Subject Matter

Claims 19 and 24 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Pertinent Prior Art

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

U.S. Patent 6,601,653 (Grabow et al.) discloses a system for fire suppression by lowering oxygen concentration in a closed space.

U.S. Patent 6,672,397 (Taylor) discloses a fire control system for reducing Oxygen in an enclosed area.

U.S. Patent 6,634,598 (Susko) discloses an inerting system for suppression Oxygen levels in an enclosed area.

U.S. Patent 3,893,514 (Carhart et al.) discloses interting a closed area with nitrogen in order to suppress a fire.

U.S. Patent 5,267,897 (Drees) discloses monitoring Carbon Dioxide in an air conditioning system for which introduces fresh air from outside into the system.

U.S. Patent 5,976,010 (Reese et al.) discloses an air quality maintenance system that controls the level of carbon dioxide by introducing fresh air.


Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ryan Christensen whose telephone number is 571-272-2683. The examiner can normally be reached on Monday - Friday, 8am - 5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hezron Williams can be reached on 571-272-2208. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

RC


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